Gulf of Mexico Harmful Algal Bloom Bulletin

Region: Texas

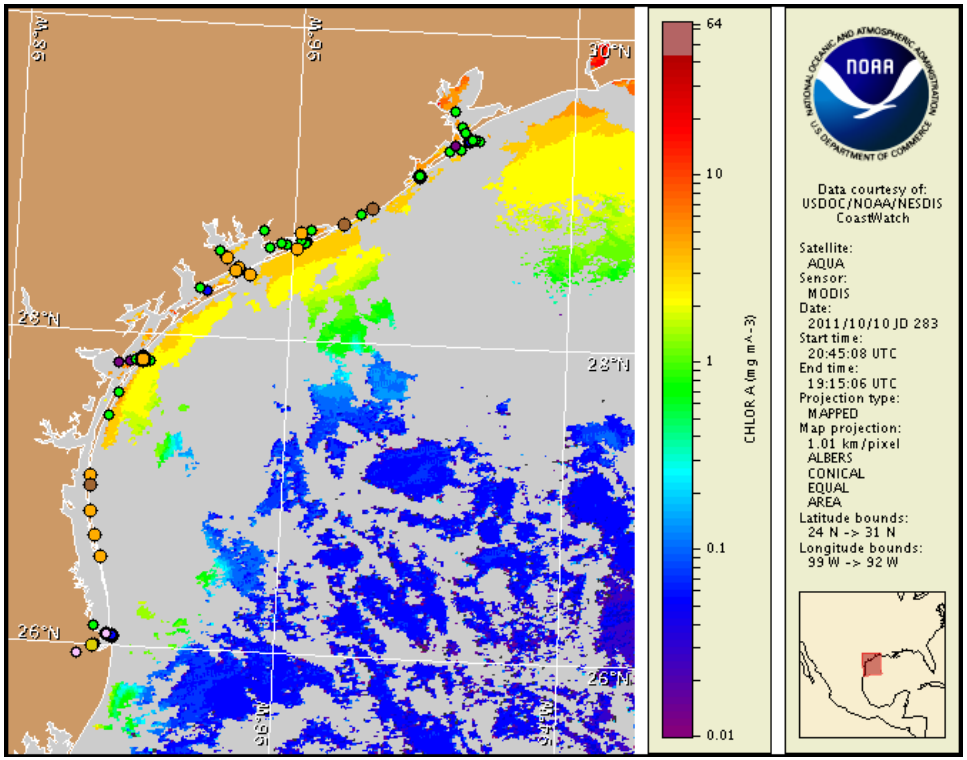
Tuesday, 11 October 2011

NOAA Ocean Service

NOAA Satellite and Information Service

NOAA National Weather Service

Last bulletin: Thursday, October 6, 2011



Satellite chlorophyll image with possible HAB areas shown by red polygon(s). Cell concentration sampling data from October 2 to 11 shown as red (high), orange (medium), yellow (low b), brown (low a), blue(very low b), purple (very low a), pink (present), and green (not present). For a list of cell count data providers and a key to the cell concentration categories, please see the HAB-OFS bulletin guide:

http://tidesandcurrents.noaa.gov/hab/habfs_bulletin_guide.pdf

To see previous bulletins and forecasts for other Harmful Algal Bloom Bulletin regions, visit the NOAA Harmful Algal Bloom Operational Forecast System bulletin archive: http://tidesandcurrents.noaa.gov/hab/bulletins.html

Conditions Report

A harmful algal bloom has been identified in the Aransas Pass area and continues to be present along the Texas coast in the Galveston/Freeport area, alongshore the Matagorda Peninsula and within Matagorda Bay, alongshore Padre Island National Seashore and the South Padre Island region, within the Brownsville Ship Channel area, and within the lower Laguna Madre. Patchy high impacts are possible in the Aransas Pass area today though Wednesday. Patchy moderate impacts are possible in the Galveston/Freeport area, Matagorda Peninsula region, alongshore Padre Island National Seashore, within the Brownsville Ship Channel area, and within the lower Laguna Madre today through Wednesday. Patchy low impacts are possible alongshore the South Padre Island region today through Wednesday. No additional impacts are expected at the coast in Texas today through Wednesday, October 12. Reports of dead fish have been received from Indianola, Port O'Connor, and Baggy Bayou in the Matagorda Bay region, alongshore the Padre Island National Seashore, along the east shoreline of the lower Laguna Madre north of the Mansfield jetty, and in the Laguna Vista area near Old Texaco Channel. Respiratory irritation has been reported in the Corpus Christi Bay and Port Aransas areas, as well as along the entire length of the Padre Island National Seashore.

Analysis

A harmful algal bloom has been identified in the Aransas Pass area and continues to be present along the Texas coast in the Galveston/Freeport area, alongshore the Matagorda Peninsula and within Matagorda Bay, alongshore Padre Island National Seashore and the South Padre Island region, within the Brownsville Ship Channel area, and within the lower Laguna Madre. Several samples collected within Aransas Pass over the past two days indicate *Karenia brevis* concentrations ranging from 'medium' to 'high' at the UTMSI pier and within the UTMSI marina (10/9-10/10; TPWD). One sample from the Packery Channel Boat Launch indicates that *K. brevis* is not present (10/7; TPWD). Farther north along the coast in the Matagorda region, one sample containing 'high' *K. brevis* concentrations was identified within Matagorda Harbor, one 'medium' sample was identified alongshore the Matagorda Peninsula at the Colorado River jetty, and 'very low a' to 'low b' concentrations were identified within East Matagorda Bay (10/3-10/6; TPWD). Three samples collected from the west side of Matagorda Bay at Indianola Fishing Marina, the Port O'Connor fishing pier, and within the Intracoastal Waterway at Port O'Connor indicated 'medium' *K. brevis* concentrations (10/6-10/7; TPWD). All other samples collected within Matagorda Bay and the Intracoastal Waterway in this region indicated that *K. brevis* is not present (10/4-10/7; TPWD). In the Galveston region, two samples collected within West Bay at the south end of the Galveston Causeway and within the Galveston Channel identified 'very low a' and 'very low b' *K. brevis* concentrations, respectively (10/6; TPWD). Five other samples collected within the Galveston Bay, at Bolivar Roads Pass, alongshore Galveston Island, at San Luis Pass, and within West Bay at the west end of Sportsman's Road all indicated that *K. brevis* is not present, suggesting that concentrations may have decreased from earlier reported concentrations in these areas (10/6; TPWD). Three samples containing 'medium' and one sample containing 'low a' *K. brevis* concentrations were identified along the Padre Island National Seashore spanning from mile marker 28 to North Mansfield Pass (10/6; TPWD). In southern Texas, recent samples indicate that *K. brevis* concentrations may have decreased within the Brownsville Ship Channel and lower Laguna Madre. One sample collected at the southwest end of the Brownsville Ship Channel indicated background *K. brevis*

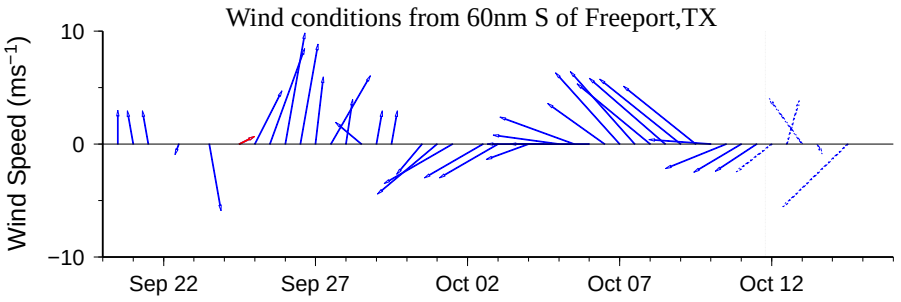
concentrations where 'high' concentrations were previously identified on 9/28 (10/8; TPWD). 'Low b' concentrations were identified within the Channel at the San Martin Boat Ramp and background concentrations were identified within the lower Laguna Madre at the west end of the Queen Isabella Causeway, where 'medium' concentrations were previously identified on 10/3 (10/8; TPWD). No *K. brevis* was present farther north within the lower Laguna Madre alongshore Holly Beach (10/8; TPWD).

Reports of dead fish have been received from Indianola, Port O'Connor, and Baggy Bayou in the Matagorda Bay region, alongshore the Padre Island National Seashore from the Mansfield jetty to Big Shell Beach, along the east shoreline of the lower Laguna Madre north of the Mansfield jetty, and in the Laguna Vista area near Old Texaco Channel (10/7; TPWD). Respiratory irritation has been reported in the Corpus Christi Bay and Port Aransas area, including Packery Channel, Newport Pass, Mustang Island State Park, and Port Aransas, as well as along the entire length of Padre Island National Seashore (10/10; TPWD).

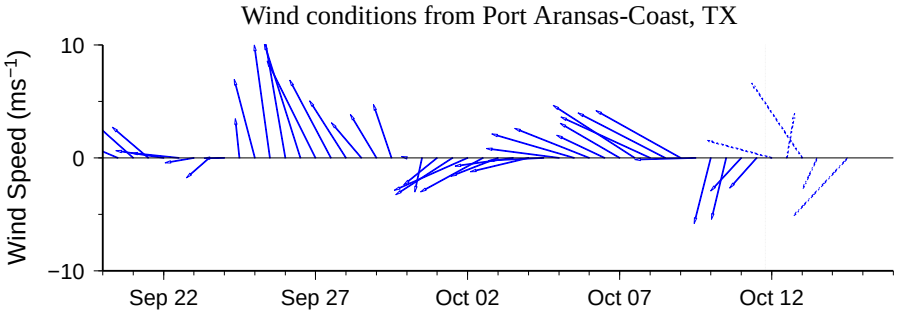
MODIS imagery over the past few days is almost completely obscured by clouds, limiting analysis. In MODIS imagery (10/10, shown left) elevated chlorophyll (1-4 μg/L) is visible in patches along- and offshore from Bolivar Roads Pass to Baffin Bay. All other areas are obscured by clouds. As of late last week (10/6), imagery suggested elevated to very high chlorophyll (2 to >20 μg/L) present in patches along the entire Texas coastline. Elevated chlorophyll at the coast may contain *K. brevis* but could also be due to the continued resuspension of benthic chlorophyll and sediments, making it difficult to determine the extent of blooms from satellite imagery alone.

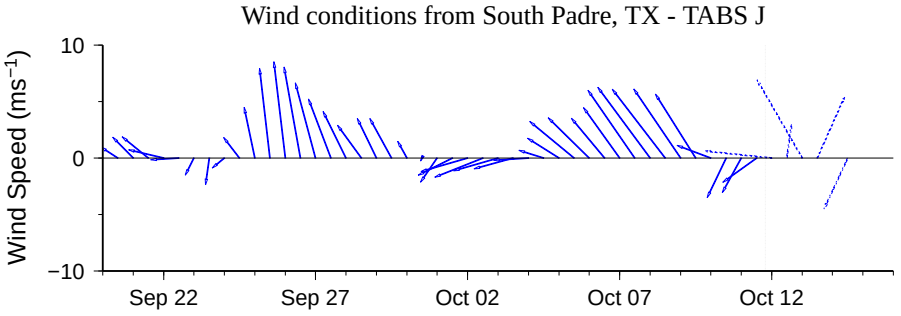
Forecast models indicate a maximum bloom transport of over 110km south from coastal sample locations in the Galveston/Freeport area, alongshore the Padre Island National Seashore, and from Brazos Santiago Pass from October 8 to 13. Forecast models also indicate a maximum bloom transport of 70-100km south from coastal sample locations in the Matagorda region from October 8 to 13, and 30km south from Port Aransas from October 10 to 13.

Derner, Kavanaugh



Wind speed and direction are averaged over 12 hours from buoy measurements. Length of line indicates speed; angle indicates direction. Red indicates that the wind direction favors upwelling near the coast. Values to the left of the dotted vertical line are measured values; values to the right are forecasts. Wind observation and forecast data provided by NOAA's National Weather Service (NWS).



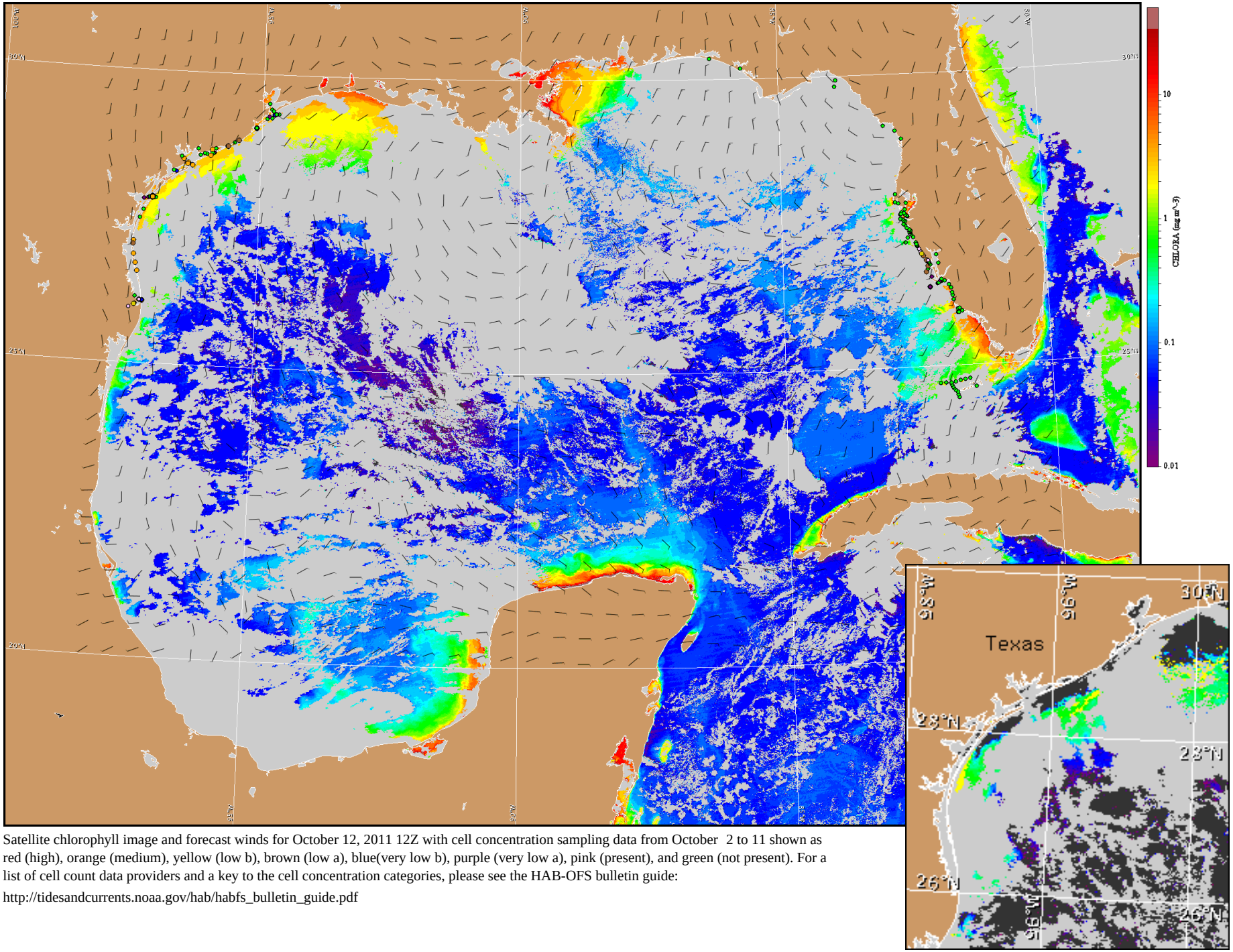


Wind Analysis

Galveston and Freeport area: North to east winds (5-10kn, 3-5m/s) today, shifting south (5-10kn) tonight. Southeast to south winds (5-10kn) Wednesday.

Port Aransas: Northeast to east winds (5-15kn, 3-8m/s) today, becoming southeast (5-15kn) tonight through Wednesday.

South Padre: East winds (10kn, 5m/s) today shifting southeast (10kn) tonight through Wednesday.



Satellite chlorophyll image and forecast winds for October 12, 2011 12Z with cell concentration sampling data from October 2 to 11 shown as red (high), orange (medium), yellow (low b), brown (low a), blue(very low b), purple (very low a), pink (present), and green (not present). For a list of cell count data providers and a key to the cell concentration categories, please see the HAB-OFS bulletin guide:

http://tidesandcurrents.noaa.gov/hab/habfs_bulletin_guide.pdf

Verified and suspected HAB areas shown in red. Other areas of high chlorophyll concentration shown in yellow (see p. 1 analysis for interpretation).